

Mr. Richard G. Freel
Saver North America, Inc.
850 Marietta, Suite 200
South Bend, Indiana 46601

Re: Exempt Construction and Operation Status,
141-13699-00199

Dear Mr. Freel:

The application from Saver North America, Inc. received on January 2, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following epoxy FRP cylinders and tube manufacturing operation, located at 3815 Ralph Jones Drive, South Bend, Indiana is classified as exempt from air pollution permit requirements:

- (a) One (1) enclosed natural gas-fired space heater (OH1) - rated at 0.1 MMBtu/hr, venting to the atmosphere via stack (OH1).
- (b) Two (2) enclosed natural gas-fired space heater (OH2 and OH3) - rated at 0.08 MMBtu/hr, venting to the atmosphere via stack (OH2 and OH3).
- (c) Five (5) radiant space heaters (PH1 through PH5) rated at 0.20 MMBtu/hr, each venting to the atmosphere via stack (PH1 through PH5).
- (d) One (1) natural gas-fired process oven (PO1) rated at 1.5 MMBtu/hr, venting to the atmosphere via stack (PO1).
- (e) Five (5) filament winding machines (FW1 through FW5).
- (f) Four (4) wet grinding machines (WG1 through WG4) and chop saw venting to a cyclone with a bag filter.
- (g) One (1) dip tank (DT1).

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

ERG/RB

cc: File - St. Joseph County
U.S. EPA, Region V
St. Joseph Health Department
Air Compliance Section Inspector - Rick Reynolds
Northern Regional Office
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a New Source Construction and Exemption

Source Background and Description

Source Name: Saver North America, Inc.
 Source Location: 3815 Ralph Jones Drive, South Bend, Indiana 46601
 County: St. Joseph
 Operation Permit No.: 141-13699-00199
 Permit Reviewer: ERG/RB

The Office of Air Quality (OAQ) has reviewed an application from Saver North America, Inc. relating to the construction and operation of an epoxy FRP cylinder and tube manufacturing operation.

Emission Units and Pollution Control Equipment

The source also consists of the following facilities/units:

- (a) One (1) enclosed natural gas-fired space heater (OH1) - rated at 0.1 MMBtu/hr, venting to the atmosphere via stack (OH1).
- (b) Two (2) enclosed natural gas-fired space heaters (OH2 and OH3) - rated at 0.08 MMBtu/hr, venting to the atmosphere via stack (OH2 and OH3).
- (c) Five (5) radiant space heaters (PH1 through PH5) rated at 0.20 MMBtu/hr, each venting to the atmosphere via stack (PH1 through PH5).
- (d) One (1) natural gas-fired process oven (PO1) rated at 1.5 MMBtu/hr, venting to the atmosphere via stack (PO1).
- (e) Five (5) filament winding machines (FW1 through FW5).
- (f) Four (4) wet grinding machines (WG1 through WG4) and chop saw venting to a cyclone with a bag filter.
- (g) One (1) dip tank (DT1).

Stack Summary

Stack ID	Height feet above ground	Diameter (feet inside)	Gas Discharge Temperature (°F)	Gas Flow Rate (acfm)
OH1	17	0.5	450	1500
OH2/OH3	17	0.5	450	1500

Stack ID	Height feet above ground	Diameter (feet inside)	Gas Discharge Temperature (°F)	Gas Flow Rate (acfm)
PH1-PH5	18	0.33	600	1750
PO1	22	1.5	650	2500

Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled Unpermitted Emission Units and Pollution Control Equipment.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on January 2, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 5).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	2.304
PM-10	0.769
SO ₂	0.007
VOC	0.066
CO	0.254
NO _x	1.209

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants are less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is

not subject to the provisions of 326 IAC 2-7.

- (c) The potential to emit (as defined in 326 IAC 2-7-1 (29) of any criteria pollutant is less than 5 tons per year, therefore, the source is subject to the provisions of 326 IAC 2-1.

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

Process	Process Rate (lbs/hr)	Allowable PM Emissions (lbs/hr)	Potential PM Emissions (lbs/hr)	Controlled PM Emissions (lbs/hr)
Deknocking and plastic cutting	19.72	0.186	0.350	0.02

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status
PM-10	Attainment
SO ₂	Attainment
NO ₂	Attainment
Ozone	Maintenance
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) St. Joseph County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.951
PM10	0.769
SO ₂	0.007

Pollutant	Emissions (ton/yr)
VOC	0.066
CO	0.254
NO _x	1.209

- (a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) The emulsion manufacturing facility is not subject to the requirements of the National Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart W (Epoxy Resins and Non-Nylon Polyimides) because the potential emissions for the facility are less than 10 tons/year for any single HAP and less than 25 tons/year for any combination of HAPs.

State Rule Applicability - Entire Source

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the deknobbing and part cutting facility shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

For the deknobbing and part cutting operation with a process weight rate of 19.72 lbs/hr. The allowable emissions would be in 0.186 lbs/hr.

The cyclone/bagfilter shall be in operation at all times the deknobbing and part cutting facility is in operation, in order to comply with this limit.

Conclusion

The construction and operation of this epoxy FRP cylinders and tubes manufacturing facility shall be subject to the conditions of the attached proposed New Source Construction and exemption 141-13699-00199.

Appendix A: Emissions Calculations

Page 1 of 5 TSD App A

Summary Potential Emissions

Company Name: Saver North America, Inc.
Address City IN Zip: 3815 Ralph Jones Drive, South Bend, Indiana
CP: 141-13699
Plt ID: 141-00199
Reviewer: ERG/RB
Date: January 15, 2000

Potential emissions (Tons/ Year)

Process	PM*	PM10*	SO2	NOx	VOC	CO
Combustion	0.145	0.145	0.007	1.209	0.064	0.254
Coating	0.624	0.624			0.002	
Plastic Machining	1.534					
Total	2.303	0.769	0.007	1.209	0.066	0.254

Controlled emissions (Tons/Year)

Process	PM*	PM10*	SO2	NOx	VOC	CO
Combustion	0.145	0.145	0.007	1.209	0.064	0.254
Coating	0.624	0.624			0.002	
Plastic Machining	0.001					
Total	0.770	0.769	0.007	1.209	0.066	0.254

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR 3-10

Small Industrial Boiler

Company Name: Saver North America, Inc.

Address City IN Zip: 3815 Ralph Jones Drive, South Bend, Indiana

CP: 141-13699

Plt ID: 141-00199

Reviewer: ERG/RB

Date: January 15, 2000

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

2.8

24.2

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	12.0	12.0	0.6	100.0	5.3	21.0
Potential Emission in tons/yr	0.15	0.15	0.01	**see below	0.06	0.25

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only**

Page 3 of 5 TSD App A

MM BTU/HR <100

Small Industrial Boiler

HAPs Emissions

Company Name: Saver North America, Inc.

Address City IN Zip: 3815 Ralph Jones Drive, South Bend, Indiana

CP: 141-13699

Plt ID: 141-00199

Reviewer: ERG/RB

Date: January 15, 2000

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	2.539E-05	1.451E-05	9.067E-04	2.176E-02	4.110E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	6.044E-06	1.330E-05	1.692E-05	4.594E-06	2.539E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
VOC and Particulate
From Coating Dip Tank Operations**

Page 4 of 5 TSD App A

Company Name: Saver North America, Inc.
Address City IN Zip: 3815 Ralph Jones Drive, South Bend, Indiana
CP: 141-13699
Pit ID: 141-00199
Reviewer: ERG/RB
Date: January 15, 20

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
xy Resin/anhy	9.8	0.00%	0.0%	0.0%	0.0%	100.00%	0.00300	484.660	0.00	0.00	0.00	0.01	0.00	0.62	0.00	99%

Potential Emissions	Add worst case coating to all solvents	0.000	0.012	0.002	0.62
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METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

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Appendix A: Emissions Calculations

Page 5 of 5 TSD App A

Plastic Machining

Company Name: Saver North America, Inc.
Address City IN Zip: 3815 Ralph Jones Drive, South Bend, Indiana
CP: 141-13699
Plt ID: 141-00199
Reviewer: ERG/RB
Date: January 15, 2000

Deknocking and Part Cutting

Tons/Year Lbs/hr

Cyclone with Bag Filter		
Aount of PM collected	1.455	0.053
Estimated Control Efficiency	99.90%	
Controlled PM emissions	0.001	
Estimated Fugitive Emissions	0.078	0.018
Potential PM Emissions	1.534	